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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/614,196	03/12/96	TAMURA K	1232-4252

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EXAMINER	
ONUAKU,T.	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/614,196	Applicant(s) Tamura et al.
	Examiner Christopher Onuaku	Group Art Unit 2712

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-16* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-16* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. ***Response to Arguments***

Applicant's arguments filed 6/24/98 have been fully considered but they are not persuasive.

Applicant argues that the reference level modulation coefficient K of Shimuzu '374 is not optimized control parameter, that the coefficient K is not related to a selected zone, and that Shimuzu et al '374 do not teach or suggest to store the optimized exposure control parameters for a selected zone or maintain the optimum exposure state based upon the optimized control parameters. In column 4, line 67 to column 7, line 57, Shimuzu et al. '374 disclose that a reference level modulation coefficient K is stored in the ROM 16. By storing the coefficients for modulating the exposure control reference value into the ROM, the optimum exposure control reference value modulation according to the luminance signal level can be executed. The reference level modulation coefficient K may not be the iris, the electronic shutter speed, or the gain amount of the AGC amplifier, but it can be considered a control parameter since there is a relation between the reference level modulation coefficient K and the luminance level as shown in Fig.6. In column 7, lines 45-57, Shimuzu et al. '374 disclose that by storing the coefficients for modulating the exposure control reference value into the ROM (i.e. ROM 16), the optimum exposure control reference value modulation according to the luminance signal level can be executed (see claims 1, 3, 6, and 9). This shows that the coefficients for modulating the exposure control reference value stored in ROM 16 are for optimum exposure control which is obtained when exposure control is

completed and optimum state obtained. Furthermore, as discussed in claim 14, for the apparatus of Shimuzu et al '374 to achieve an optimum exposure, and produce a high quality image, which is highly desirable in an exposure control apparatus, the exposure control means must inherently maintain the state of optimum exposure adjustment (for a selected zone) prevailing at the time until that particular photographing process is completed.

Therefore, the rejection will be repeated

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-5 are rejected under 35 U.S.C. § 103 as being unpatentable over Shimuzu et al(US 5,473,374) in view of Iwasaki(US 5,461,452).

Regarding claim 1, Shimuzu '374 discloses in Fig.2 an exposing apparatus and method for performing exposure control in correspondence to a luminance level of an object comprising:

a) the claimed exposure detection means for detecting an exposure condition on the basis of an image signal in a selected zone which is met by the detecting circuit 7 which detects the digital signal supplied by the A/D converter 5(col.4. lines 44, lines 48-49);

b) the claimed exposure control means for controlling exposure based on the detected condition is met by the control amount operating circuit which obtains a numerical aperture of the iris 2 according to the image pickup signal level, an electronic shutter speed of the CCD image pickup device 3, and a gain amount of the AGC amplifier 4(col.4, lines 54-66);

c) the claimed memory means for storing control parameters of the exposure control means when an exposure control by the exposure control means is completed and an optimum exposure control state is obtained which is met by the ROM 16(col.4, line 63 to col.5, line 43, and col.7, lines 45-57);

d) the claimed control means for controlling exposure control means is met by the control amount operating circuit 11(col.4, lines 52-61).

However, Shimuzu et al '374 fail to disclose the claimed zone selecting means for selecting any zone on the image sensing plane.

Iwasaki in Fig.28&30 shows a visual axis detecting device 110(col.18, lines 55-67) which detects the visual axis of the photographer, and a tracking device 155(col.18, lines 64-67 &col.19., line 1 - col.21, line 6) which tracks a position which is near the position of object obtained by the visual axis detecting device 110, and has approximate spectral characteristics. By

adding the zone selecting means feature to the camera, the photographer is better able to produce a better quality picture because of improved exposure.

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to modify the camera of Shimuzu, as taught by Iwasaki, to include a zone selecting feature to improve the exposure control capability of the camera, thereby creating a better quality camera.

Regarding claim 2, Shimuzu '374, as modified by Iwasaki, teaches in Fig.2&3 an exposing apparatus for performing exposure control comprising the claimed limitation that if the control parameters are outside a prescribed range, the memory means selects an upper-limit or a lower-limit of the prescribed range of control parameters is met by the disclosure in column 5, lines 24-43. Here Shimuzu '374 explains that when the luminance level of the object is small, the reference level modulation coefficient is equal to 1.0 until the luminance level of 1000 cd/m2, and an exposure control is executed in a manner similar to the conventional manner. On the other hand, when the luminance level of the object increases to over 1000 cd/m2, the modulation coefficient K also gradually increases. When the luminance level of the object reaches 25,000 cd/m2, the modulation coefficient K=1.5, thereby setting the reference level signal to a value that is two times as large as the predetermined reference level.

Regarding claim 3, Shimuzu '374 again discloses in Fig.1 an apparatus and method for performing optimum exposure control in correspondence to a luminance level of object comprising:

a) the claimed zone selecting means which is discussed in claim 1;

b) the claimed exposure detection means which is also discussed in claim 1;

c) the claimed exposure control means which is discussed in claim 1;

d) the claimed memory means which again is also discussed in claim 1;

e) the claimed selected-zone detection means is further disclosed by Iwasaki in Fig.9,10,12&13, col.8, line 61-col.10, line 13. Here Iwasaki teaches that a detecting processing portion 115, shown in Fig.10, detects the position of visual axis of the photographer on the basis of an output from the CCD 114, shown in Fig.10. The visual axis of the photographer can be discriminated according to the position of the element corresponding to the maximal value of the intensity distribution by the CCD 114. In this case, the detecting processing portion 115 can sequentially compare, as shown in Fig.12, the outputs from CCD 114 to detect the maximal value, and can supply the coordinates((Xa,Ya) shown in Fig.13) of the corresponding element to a classifying device 116, shown in Fig.9, as the position of object.

Claim 4 is rejected for the same reasons given with respect to claim 2 discussed above.

Regarding claim 5, neither Shimuzu '374 nor Iwasaki explicitly discloses the claimed selecting means for allowing a photographer to select whether maintenance of exposure is to be nullified. However, as disclosed by Iwasaki and discussed in claim 3 above , the detecting processing portion 115 detects the position of visual axis of the photographer. That is, the detecting processing portion is detecting what the photographer is seeing. It is then obvious that if the photographer considers the image he is seeing to be of poor quality, he can conveniently shift his line of sight to the spot where he can see an image which he considers to be of better quality. This way he has the ability to nullify or not the position of the image that the detecting processing portion 115 detects.

4. Claims 6,7&8 are rejected under 35 U.S.C. § 103 as being unpatentable over Shimuzu et al '374 in view of Iwasaki and in view of Shimuzu(US 5,400,074).

Regarding claim 6, Shimuzu '374, as modified by Iwasaki, further teaches in Fig.1, an exposing apparatus and method for performing optimum exposure control in correspondence to a luminance level of an object comprising:

a) the claimed zone selecting means which is discussed in claim 1;

b) the claimed exposure detecting means which is also discussed in claim 1;

c) the claimed exposure control means which is discussed in claim 1;

d) the "first" claimed memory means which again is also discussed in claim 1;

e) the claimed "second" memory means for storing a video signal of the zone is again disclosed by Iwasaki in Fig.45 and column 30, lines 57-67 and column 31, lines 1-6. Here Iwasaki shows that the reading circuit 192 reads the outputs from the element indicated by the coordinates (Xa,Ya) from the CCD 107 according to the decision result indicating that the object is changed. The transferring circuit 193 transfers the above-named coordinates (Xa,Ya), and the outputs from the element obtained by the reading circuit 192 as coordinates (Xb,Yb) indicating the position of new object , and these data are stored in the coordinates holding portion 156. Thereafter, the tracking device 155 executes tracking processing of the position of the object on the basis of the above-mentioned position of the new object.

Neither Shimuzu '374 nor Iwasaki shows the claimed detection means for determining whether a zoomed image signal captured by the image sensing means contains the video signal of the zone stored in the "second" memory means, and outputting a signal for resetting the control parameters in the "first" memory means if the captured image signal is not contained in the zone.

However, Shimuzu(US 5,400,074) teaches in Fig.5,6&7, col.4, line 62 to col.5, line 32, a video camera device comprising a zoom lens position detecting circuit 15. This zoom lens position detecting circuit detects the amount of movement of the zoom lens in the inner focus lens assembly 1, and the detected amount is supplied to the ROM 16. The ROM 16 stores amounts of F-drop corresponding to various positions of the zoom lens, as shown in Fig.6. An amount of F-drop corresponding to the position of the zoom lens is supplied from ROM 16 to the control amount computing circuit 12 which calculates the open amount for the iris 2, and a gain for the

AGC amplifier 4, on the basis of outputs from the loop filter 11 and the ROM 16. Thereafter, the output from the control amount computing circuit 12 is sent to the iris driving circuit 13 and the D/A converter 14. The output from the iris driving circuit 13 is then sent to the iris 2 to control the open amount thereof. Fig.7 shows a graph where the gain B of the AGC amplifier 4 is corrected to the gain curve B' by adding a gain amount 'W' corresponding to the amount of F-drop. This gain correction process shows that the zoomed video signal captured by the image sensor is reset and then corrected if the zoomed video signal is not contained.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the camera of Shimuzu '374, as modified by Iwasaki, to include a zoomed video signal detecting means, as taught by Shimuzu '074, as an added feature to increase the versatility of the camera.

Claim 7 is rejected for the same reasons given with respect to claim 4 discussed above.

Claim 8 is rejected for the same reasons given with respect to claim 5 discussed above.

5. Claims 9-15 are rejected under 35 U.S.C. § 103 as being unpatentable over Shimuzu et al '374 in view of Faltermeier(US 5,579,156).

Regarding claims 9, 10 &12 Shimuzu '374 discloses in Fig.2 an exposing apparatus and method for performing exposure control in correspondence to a luminance level of an object comprising:

Faltermeier et al disclose in Fig.1 a photomicroscope with a video camera and an exposure time control for a still camera comprising:

a) the claimed adjusting means for applying a prescribed adjustment to the image signal of the zone which is met by the control amount operating circuit 11 which applies the gain of iris 2, the electronic shutter speed of the image pickup device 3, and the gain amount of AGC amplifier 4 (all of which constitute the claimed prescribed adjustment(parameters)) to the luminance operating circuit 15(col. 4, line 67 to col 5, line 24);

b) the claimed memory means(see ROM 16, col.5);

c) the claimed control means for storing the adjusting data(control parameters) in memory means(ROM 16) when adjustment by the adjusting means is completed(for the adjusting process see col.5) and a prescribed state is obtained , and for controlling the adjusting means to maintain the prescribed state by using the adjusting data in the memory(see control amount operating circuit 11 and luminance level operating circuit 15; col.5; and col.7, lines 45-57).

Shimuzu et al '374 fail to explicitly disclose the claimed display means and the pointing device for selecting any zone in a screen displayed by the display means. Faltermeier et al disclose in Fig.1 a photomicroscope with a video camera and an exposure time control for a still camera comprising the claimed display means(see monitor 25) for displaying the image area recorded with

the camera, and the claimed pointing device(see the track ball 27c; col.4) which is used to select the object areas of particular interest, for exposure metering which ensures that these object areas are suitably exposed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shimuzu '374 by realizing Shimuzu '374 with a display means, as taught by Faltermeier, to display image area recorded by the Shimuzu '374 apparatus, and a pointing device, again as taught by Faltermeier, for selecting object area of particular interest.

Regarding claim 13, Shimuzu et al '374 disclose the adjusting means adjusts exposure of the image sensing device by adjusting f-stop(iris), shutter, and gain(AGC gain)(col.4, line 67 to col.5, line 2).

Regarding claim 14, the claimed limitation wherein when adjustment by the adjusting means has attained a prescribed state, the control means maintains the state of adjustment prevailing at this time is inherent in control means of Shimuzu et al '374 exposure control apparatus in order for the Shimuzu et al apparatus to achieve optimum exposure thereby producing a high quality image.

Regarding claim 15, in Fig.1, and column 4, lines 50-53, Faltermeier teaches the claimed selecting means for allowing the photographer to select whether storage of the adjusting data by

the control means is performed or not is met by the disclosure that via switching knobs 27b(adjusting means, see claim 1), the user, which is the photographer, can choose whether the entire video image shall be used for exposure control or only an image area of alternatively 1%,3% or 10% of the entire image surface. Since the photographer chooses which image portion he wants to video, the control means stores only that image chosen by the photographer through the switching knobs 27b.

Regarding claim 11, Shimuzu et al '374 and Faltermeier fail to explicitly disclose the claimed limitation of a pointing device being a mouse. But Faltermeier teaches, as discussed in claim 9 above, a track ball as a pointing device. It is well known in the art that the track ball and the mouse are both used as pointing devices.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the camera of Shimuzu et al '374 by realizing the apparatus of Shimuzu et al '374 with a mouse as a pointing device in order to increase the versatility of the Shimuzu at al '374 apparatus, thereby making the apparatus more commercially appealing.

6. Claim 16 is rejected under 35 U.S.C. § 103 as being unpatentable over Shimuzu et al '374 in view of Faltermeier et al and in view of Arai. et al(US 5,570,156) .

Regarding claim 16, Shimuzu et al '374 and Faltermeier fail to disclose the claimed limitation wherein the screen is a monitor screen of an electronic viewfinder.

However, Arai. et al disclose in Fig.3 a camera utilizing detection of visual line comprising the claimed electronic viewfinder with a monitor screen which is met by the electronic viewfinder 101(col.4, lines 58-59) which inherently has a monitor screen for viewing video images of objects.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the camera of Shimuzu et al '374, as taught by Arai. et al, to include an electronic viewfinder, as an added feature, in order to monitor video images of objects, and thereby increase the exposure control range of the video camera of Shimuzu et al '374.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Onuaku whose telephone number is (703) 308-7555. The examiner can normally be reached on Tuesday to Friday from 7:30 am to 5:00 pm. The examiner can also be reached on alternate Monday.

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-5399 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone is (703) 305-4700.

COO

7/2/98

WENDY GARBER
~~PRIMARY~~ EXAMINER
Supervisory